



CURRICULUM VITAE ABREVIADO (CVA)

IMPORTANT – The Curriculum Vitae **cannot exceed 4 pages**. Instructions to fill this document are available in the website.

Part A. PERSONAL INFORMATION

First name	Francisco Javier		
Family name	Santos-Alamillos		
Gender (*)	Male	Birth date	11/03/1984
Social Security, Passport, ID number	30980328H		
e-mail	fsantos@uma.es	URL Web	
Open Researcher and Contributor ID (ORCID) (*)	0000-0001-7592-9242		

(*) *Mandatory*

A.1. Current position

Position	Associate Professor		
Initial date	17/02/2023		
Institution	University of Málaga		
Department/Center	Department of Applied Physics	Faculty of Sciences	
Country	Spain	Phone number	+34 952137058
Keywords	WRF; Meteorology; Renewable Energy; Power System Modeling; Multivariate Statistics		

A.2. Previous positions (research activity interruptions, indicate total months)

Period	Position/Institution/Country/Interruption cause
05/2008 - 06/2012	PhD student, Department of Physics, University of Jaén
01/2013 - 08/2013	Postdoctoral Researcher, University of Oldenburg (Germany)
09/2013 - 09/2014	Postdoctoral Researcher, University of Jaén
10/2014 - 09/2015	Postdoctoral Researcher, University of Málaga
09/2015 - 01/2016	Postdoctoral Researcher, University of Delaware (U.S.A.)
02/2016 - 06/2016	Postdoctoral Researcher, University of Reading (U.K.)
09/2016 - 09/2018	Postdoctoral Researcher, University of Jaén
09/2018 - 02/2022	Assistant Professor, University of Cádiz
02/2022 - 02/2023	Assistant Professor, University of Málaga

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Bachelor in Physics	University of Córdoba	2008
Master Degree In Geophysics and Meteorology	University of Granada	2010
PhD. In Sciences	University of Jaén	2012

Part B. CV SUMMARY (*max. 5000 characters, including spaces*)

Francisco Javier Santos Alamillos holds a bachelor's degree in Physics (2008) from the University of Córdoba, a Master Degree in Geophysics and Meteorology (2010) from the University of Granada and a PhD in Sciences (2012) from the University of Jaén. He is currently an Associate Professor in the Department of Applied Physics I at the University of Granada. His scientific career began in 2008, when he joined the Atmosphere Modeling and Solar Radiation (MATRAS) group as a PhD student in the framework of the RENUVEVA project. As PhD student, his research was focused on two main lines: 1) the modeling of the



renewable wind and solar energy resources with the Numerical Weather Prediction model Weather Research and Forecasting (WRF); and 2) the analysis of spatiotemporal variability of the solar and wind energy resources, aiming to explore areas in which those resources show a certain complementarity. He also did a predoctoral research stay in the Risoe DTU National Laboratory for Sustainable Energy under the supervision of Dr. Andrea Hahmann. He defended his PhD dissertation with international mention titled “Analysis of spatiotemporal balancing of solar and wind energy resources in Andalusia (Southern Spain): methods for reducing their power fluctuations” in 2012. Dr. Francisco Javier Santos Alamillos has a wide postdoctoral experience. He, firstly, joined the Center For Wind Energy Research (Forwind) of the University of Oldenburg (Germany) to work in the European project WAUDIT under the supervision of Dr. Lueder Von Bremen (from January 2013 to August 2014). During its stay, he worked supporting the research team with the simulation of the offshore wind field in some floating platforms in the North Sea. Next, he joined as postdoctoral research at the University of Málaga leading its own research line about the proposal and evaluation of different wind repowering scenarios in Spain (from October 2014 to September 2015). Later, he worked at the University of Delaware under the supervision of Dr. Cristina Archer in a project about the optimal decarbonization of the PJM power system (from October 2015 to January 2016). Moreover, he also joined the Department of Meteorology at the University of Reading as postdoctoral researcher to work with Dr. David Brayshaw in optimizing energy portfolios to design an efficient European power system (from February 2016 to June 2016). As faculty member, he joined to the Department of Applied Physics of the School of Engineering of Algeciras at the University of Cádiz as Assistant Professor from September 2018 to February 2022, by which date he joined to the Department of Applied Physics I at University of Málaga as Professor up to the date: firstly as Assistant Professor and then as Associate Professor. Throughout his career, he has published 23 papers, with 17 of them being in the first quartile. As measure of the quality of his publications, he has received 1.147 cites and has a H-index of 18 (Scopus). Moreover, he has contributed to more than 30 international conferences and participated in 9 research projects (one of them as P.I.). Finally, he also has participated in 5 contracts with private companies and founded, in 2011, the Spin-Off SynerMet Weather Solutions of the University of Jaén.

Part C. RELEVANT MERITS

C.1. Publications

1. Thomaidis, N. S., Christodoulou, T., and **Santos-Alamillos, F. J.** (2023). Handling the risk dimensions of wind energy generation. *Applied Energy*, 339, 120925.
2. **Santos-Alamillos, F. J.**, Archer, C. L., Noel, L., Budischak, C., and Facciolo, W. (2017). Assessing the economic feasibility of the gradual decarbonization of a large electric power system. *Journal of Cleaner Production*, 147, 130-141.
3. **Santos-Alamillos, F. J.**, Brayshaw, D. J., Methven, J., Thomaidis, N. S., Ruiz-Arias, J. A., and Pozo-Vázquez, D. (2017). Exploring the meteorological potential for planning a high performance European electricity super-grid: optimal power capacity distribution among countries. *Environmental Research Letters*, 12(11), 114030.
4. **Santos-Alamillos, F. J.**, Thomaidis, N. S., Usaola-García, J., Ruiz-Arias, J. A., and Pozo-Vázquez, D. (2017). Exploring the mean-variance portfolio optimization approach for planning wind repowering actions in Spain. *Renewable Energy*, 106, 335-342.
5. Thomaidis, N. S., **Santos-Alamillos, F. J.**, Pozo-Vázquez, D., & Usaola-García, J. (2016). Optimal management of wind and solar energy resources. *Computers and Operations Research*, 66, 284-291.
6. **Santos-Alamillos, F. J.**, Pozo-Vázquez, D., Ruiz-Arias, J. A., Von Bremen, L., & Tovar-Pescador, J. (2015). Combining wind farms with concentrating solar plants to provide stable renewable power. *Renewable Energy*, 76, 539-550.

7. **Santos-Alamillos, F. J.**, Pozo-Vázquez, D., Ruiz-Arias, J. A., Lara-Fanego, V., & Tovar-Pescador, J. (2014). A methodology for evaluating the spatial variability of wind energy resources: Application to assess the potential contribution of wind energy to baseload power. *Renewable Energy*, 69, 147-156.
8. **Santos-Alamillos, F. J.**, Pozo-Vázquez, D., Ruiz-Arias, J. A., Lara-Fanego, V., & Tovar-Pescador, J. (2013). Analysis of WRF model wind estimate sensitivity to physics parameterization choice and terrain representation in Andalusia (Southern Spain). *Journal of Applied Meteorology and Climatology*, 52(7), 1592-1609.
9. **Santos-Alamillos, F. J.**, Pozo-Vázquez, D., Ruiz-Arias, J. A., Lara-Fanego, V., & Tovar-Pescador, J. (2012). Analysis of spatiotemporal balancing between wind and solar energy resources in the southern Iberian Peninsula. *Journal of applied meteorology and climatology*, 51(11), 2005-2024.
10. Lara-Fanego, V., Ruiz-Arias, J. A., Pozo-Vázquez, D., **Santos-Alamillos, F. J.**, & Tovar-Pescador, J. (2012). Evaluation of the WRF model solar irradiance forecasts in Andalusia (southern Spain). *Solar Energy*, 86(8), 2200-2217.

C.2. Congress, indicating the modality of their participation (invited conference, oral presentation, poster)

C.3. Research projects

1. **Reference:** P18-RT-3820. **Title:** Análisis y Modelado del Impacto del AEROSOL sobre las Nubes y la Precipitación. (AEROPRE). **Funding body and call for proposals:** Proyectos I+D+i Junta de Andalucía 2018, Consejería de Conocimiento, Investigación y Universidad de la Junta de Andalucía. **Principal Investigator:** Lucas Alados Arboledas. **Period:** 01/01/2020 - 31/12/2022. **Amount granted:** 108.292 €. **Type of participation:** Researcher.
2. **Reference:** ID2019-107455RB-C21. **Title:** Desarrollo y análisis de una base de datos de los recursos solares y eólicos de la Península Ibérica para el estudio de un sistema eléctrico bajo carbón. (MET4LOWCAR). **Funding body and call for proposals:** Junta de Andalucía **Principal Investigator:** David Pozo Vázquez and José A. Ruiz Arias. **Period:** 01/06/2020 - 29/02/2024. **Amount granted:** 113.740 €. **Type of participation:** Researcher.
3. **Reference:** UMA20-FEDERJA-134. **Title:** Predicción de la energía solar a corto plazo mediante advección y difusión de la nubosidad a partir de imágenes de satélite (PRADISOL). **Funding body and call for proposals:** Convocatoria de la Agencia Estatal de Investigación de Proyectos I+D+i, dentro del Programa/Plan Proyectos de I+D+i 2019. Ministerio de Ciencia, Innovación y Universidades. **Principal Investigator:** José Antonio Ruiz Arias y Francisco J. Santos Alamillos. **Period:** 29/11/2021 - 30/09/2023. **Amount granted:** 34.372 €. **Type of participation:** IP.
4. **Reference:** CGL2011-30377-C02-01. **Title:** Desarrollo de un modelo operacional de predicción del recurso solar en escalas de horas a días (SOLCASTING). **Funding body and call for proposals:** Convocatoria del Ministerio de Ciencia e Innovación, Programa Nacional de Proyectos de I+D+i, Acción Estratégica de Salud y Acción Estratégica de Telecomunicaciones y Sociedad de la Información. **Principal Investigator:** David Pozo Vázquez. **Period:** 01/01/2012 - 31/12/2015. **Amount granted:** 96.800 €. **Type of participation:** IP.
5. **Reference:** UJA_10_13_01. **Title:** Desarrollo y mejora de los modelos numéricos de predicción meteorológica para su utilización en el campo de las energías renovables. Generación de una base de datos de alta resolución espacial y temporal del recurso solar directo en la provincia de Jaén (RESOLJAEN). **Funding body and call for proposals:** Programa propio de ayudas para la realización de proyectos de investigación. Acción 13. **Principal Investigator:** Gabino Almonacid Puche. **Period:** 01/03/2011 - 28/02/2013. **Amount granted:** 20.000 €. **Type of participation:** Researcher.

6. **Reference:** P07-RNM-02872. **Title:** Evaluación de los recursos eólicos y solares de Andalucía mediante un modelo meteorológico de mesoscala (RENUUEVA). **Funding body and call for proposals:** Convocatoria de la Consejería de Economía, Innovación y ciencia de proyectos y ayudas a la investigación, dentro del Plan Proyectos de Excelencia 2007. **Principal Investigator:** David Pozo Vázquez. **Period:** 01/06/2008 - 31/12/2012. **Amount granted:** 296.668 €. **Type of participation:** Researcher.
7. **Reference:** ENE2007-67849-C02-01. **Title:** Evaluación y predicción de los recursos energéticos solares mediante integración de técnicas de inteligencia artificial y modelos de predicción numérica (SOLPREMO). **Funding body and call for proposals:** Convocatoria del Ministerio de Educación y Ciencia de proyectos y ayudas a la investigación dentro del programa MEC_2007. **Principal Investigator:** Joaquín Tovar Pescador. **Period:** 01/06/2008 - 31/12/2012. **Amount granted:** 101.640 €. **Type of participation:** Researcher.

C.4. Contracts, technological or transfer merits

1. **Title:** Sistema de gestión predictiva de la operación y el mantenimiento de plantas termosolares. **Company:** Magtel I+D+I. **P.I.:** David Pozo Vázquez. **Period:** 10/12/2012-10/12/2014. **Amount of funding:** 85.000 €. **Type of participation:** Researcher.
2. **Title:** Modelo operacional de predicción del recurso solar para instalaciones fotovoltaicas. **Company:** Magtel I+D+I. **P.I.:** Joaquín Tovar Pescador. **Period:** 22/10/2012-31/12/2012. **Amount of funding:** 13.300 €. **Type of participation:** Researcher.
3. **Title:** Desarrollo de un sistema de predicción de zonas inundables en la provincia de Jaén.. **Entity:** Delegación Provincial de la Consejería de Gobernación y Justicia. **P.I.:** Joaquín Tovar Pescador. **Period:** 23/09/2011-30/11/2011. **Amount of funding:** 17.700 €. **Type of participation:** Researcher.
4. **Title:** Programa de diseño y cálculo de instalaciones aisladas de fotovoltaica, minieólica y mixta. **Entity:** Agencia Andaluza de la Energía. **P.I.:** Joaquín Tovar Pescador. **Period:** 04/05/2009-21/12/2009. **Amount of funding:** 17.400 €. **Type of participation:** Researcher.
5. **Title:** Análisis de la complementariedad del recurso eólico y solar en Andalucía y estudio pormenorizado de diversas zonas. **Entity:** Agencia Andaluza de la Energía. **P.I.:** David Pozo Vázquez. **Period:** 01/01/2009-15/03/2009. **Amount of funding:** 22.362 €. **Type of participation:** Researcher.